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PROJECT CHECO SOUTHEAST ASIA REPORT

USAF QUICK REACTION FORCES

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PROJECT **C**ontemporary **H**istorical **E**xamination of **C**urrent **O**perations REPORT

USAF QUICK REACTION FORCES

20 JUNE 1974

CHECO/CORONA HARVEST DIVISION
OPERATIONS ANALYSIS OFFICE
HQ PACAF

Prepared by:
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14. ABSTRACT

Project CHECO was established in 1962 to document and analyze air operations in Southeast Asia. Over the years the meaning of the acronym changed several times to reflect the escalation of operations: Current Historical Evaluation of Counterinsurgency Operations, Contemporary Historical Evaluation of Combat Operations and Contemporary Historical Examination of Current Operations. Project CHECO and other U. S. Air Force Historical study programs provided the Air Force with timely and lasting corporate insights into operational, conceptual and doctrinal lessons from the war in SEA.

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PROJECT CHECO REPORTS

The counterinsurgency and unconventional warfare environment of Southeast Asia has resulted in USAF airpower being employed to meet a multitude of requirements. These varied applications have involved the full spectrum of USAF aerospace vehicles, support equipment, and manpower. As a result, operational data and experiences have accumulated which should be collected, documented, and analyzed for current and future impact upon USAF policies, concepts, and doctrine.

Fortunately, the value of collecting and documenting our SEA experiences was recognized at an early date. In 1962, Hq USAF directed CINCPACAF to establish an activity which would provide timely and analytical studies of USAF combat operations in SEA and would be primarily responsive to Air Staff requirements and direction.

Project CHECO, an acronym for Contemporary Historical Examination of Current Operations, was established to meet the Air Staff directive. Based on the policy guidance of the Office of Air Force History and managed by Hq PACAF, with elements in Southeast Asia, Project CHECO provides a scholarly "on-going" historical examination, documentation, and reporting on USAF policies, concepts, and doctrine in PACOM. This CHECO report is part of the overall documentation and examination which is being accomplished. It is an authentic source for an assessment of the effectiveness of USAF airpower in PACOM when used in proper context. The reader must view the study in relation to the events and circumstances at the time of its preparation--recognizing that it was prepared on a contemporary basis which restricted perspective and that the author's research was limited to records available within his local headquarters area.

Robert E. Hiller

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FOREWORD

(U) This report examines the evolution of the alert role of F-4 Phantom fighter-bombers in Southeast Asia air-to-ground combat operations. Seventh Air Force implemented the quick reaction concept as a management tool to promote the effective allocation of air resources under circumstances of limited targets and variable weather conditions. Through the use of documentary evidence and interviews conducted with individuals involved in Seventh Air Force air operations, this study traces the employment of the quick reaction concept from its inception in 1970 through April 1973.

CHAPTER I

INTRODUCTION

(S) During the late 1960s and into the 1970s, continued prosecution of the war under increasingly stringent materiel and logistics restraints prompted improvements of flexibility and efficiency in the conduct of air operations in Vietnam, Laos, and eventually in Cambodia. The impact of these constraints was clearly manifested in operations in Laos. In Laos, U.S. air operations had been geared primarily to (1) air support for friendly forces, (2) interdiction of supplies moving south across a complex series of roads, trails, and other lines of communication (LOCs), and (3) destruction of increasingly sophisticated enemy weaponry, including that which posed a threat to friendly air operations. Discretion in the prosecution of objectives in Laos and restrictions on American involvement imposed a requirement for economy in expenditures. The rapid movement of enemy resources under cover of thick vegetation demanded precision in the delivery of ordnance and rapid response following the discovery of enemy targets. The relationship of the air war to diplomatic complexities in Vientiane, to competing command and control initiatives in Saigon, and to the rapidly fluctuating and at times precarious fortunes of friendly forces in Laos itself called for reconsideration of solutions to problems of management coordination.[1]

(S) To these problems were added difficult air operating conditions imposed by a seasonal monsoon climate* and a mountainous terrain. Prior to 1968, the Southwest Monsoon rains impeded enemy ground movement; after 1968, in all but the most severe monsoon weather, "the cumulative effects of continuing improvements to, and expansion of, the road network" permitted increased levels of wet season traffic. Thus, wet weather conditions, which once had served to impede enemy traffic, now served to complicate air interdiction efforts.[2]

(S) Meanwhile, the enemy's completion of new entry points from southern North Vietnam into Laos and northern South Vietnam (RVN) near the Demilitarized Zone, and more efficient exploitation of waterway resources, further complicated wet season interdiction. North Vietnam's expanded route structure was not matched by concomitant increases in the number of aircraft at the disposal of American forces. Increasing efficiency and flexibility in the application of air power was therefore necessary. The war in RVN required most available air resources, but support in Laos was also necessary to avert the danger that a major setback in that embattled nation might bring about a political decision to withdraw the consent of the Royal Laotian Government to further U.S. air efforts in

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*(U) Along the western and southern edges of the Annamite Mountain chain which separates Laos from North and South Vietnam, heavy rains fall during the Southwest Monsoon season from May to September. Clear periods are infrequent and unpredictable; the areas of clear weather are usually small and disappear quickly. Heavy rains fall on the higher elevations, and fog, thick clouds, and frequent rains occur in the valleys. Several clear days may occur in any given area in each month of the Southwest Monsoon season, and some areas enjoy bright late morning conditions for additional periods.

"Steel Tiger" (Southern Laos).[3] At the same time, American strategists noted that the weather-related reduction of air activity in the monsoon season provided increased opportunities for the establishment of an alert force without an accompanying degradation of scheduled operations. On 22 March 1970, the Office of the U.S. Air Attache (OUSAIRA), Vientiane, urged a new and even radical change in interdiction procedures to match the enemy's increasing sophistication. Targets were obscure, but no less dangerous. Furthermore, this very obscurity made accurate bomb damage assessment difficult.[4]

(S) A force at once economical, flexible, capable of rapid response, and centrally coordinated was necessary. It would permit maximum exploitation of limited opportunities for interdiction of enemy supplies in wet weather conditions, for the support of friendly forces, and for the destruction of in-place enemy facilities. Conditions demanded (1) the integration of the long-standing Air Force commitment in Barrel Roll (Northern Laos) and Steel Tiger with air priorities established by higher authorities and implemented by 7th AF, and (2) the coordination of rapid response authorizations with the central war strategy for all parts of SEA. These factors prompted new efforts to establish a widely employed, functionally uniform, centrally directed, and completely resource-flexible system of fighter and reconnaissance sortie responses to enemy activities. It was as a result of these considerations that the Quick Reaction (QR) concept emerged.

CHAPTER II

GENESIS OF THE QUICK REACTION CONCEPT

(S) By 1970, North Vietnamese military activity along the Annamite chain into the Mekong Plain, and eventually deep into Cambodia, was steadily increasing as USAF resources were declining. Increased emphasis on economy, flexibility, and efficiency in the USAF response suggested implementation of a concept of quick reaction for USAF strike and reconnaissance operations. In the context of Laotian operations, and as eventually extended to Cambodia and RVN, the quick reaction concept used during and after 1970 was shaped by three principal factors: an increasing scarcity of targets during the annual wet season campaign, a reduced number of sorties available for use in Laotian operations,[5] and mounting difficulties in interdiction. Basically, Quick Reaction Forces and Quick Reaction Reconnaissance called for the allocation of USAF aircraft and personnel to a ground alert status. Aircraft so allocated were to be armed and serviced for immediate take-off to strike targets of opportunity, to support friendly troops in ground combat, or to photograph perishable and perishable-static* targets. Quick Reaction was an alert-posture concept in which sorties were placed in readiness for immediate launch from ground facilities rather than diverted from previously fragged missions. Central to the concept was the day-to-day allocation of aircraft and personnel to the alert posture until activated, cancelled, or diverted to regularly fragged missions.[6] This prescheduling

*E.g., truck parks.

of alert status distinguished this idea from previous alert situations in which briefing procedures, aircraft preparation, and other requirements were integrated into a firm time-over-target schedule.

(S) In QR, all preparations were made without a commitment to launch, and no resources could be diverted from QR commitments, whatever the pressure of regular fragging requirements, without authorization from the 7AF Tactical Air Control Center (nicknamed Blue Chip). In its original definition, QR was a wet season instrument. As such, it could supply rapid response to the strike and reconnaissance opportunities provided by short periods of clear weather. Resources placed on alert, because of weather restrictions, would not normally be required for other regularly scheduled sortie commitments. A ground alert posture minimized the launching of sorties which might later abort because of bad weather, the disappearance of lucrative targets, or other conditions which followed attempts to use prearranged fragging schedules for fleeting or perishable targets. It also partly satisfied a need for single management of SEA air operations by vesting QR control authority in one central command responsive to requests from Forward Air Controllers (FACs) or other agencies in a position to define a favorable opportunity for immediate use of air power. Furthermore, QR offered FACs an opportunity to request different mixes of ordnance without sacrificing time for changing ordnance, and was available wherever needed.

(S) Quick Reaction as already defined evolved from conditions peculiar to Laotian operations in 1969 and early 1970. Its fundamental aspects,

however, reflected a heritage of air operations experience accumulated in SEA operations over several years. In 1964, the Army of the Republic of Vietnam began to recognize the value of air power's quick response capability. Thereafter, the need for rapid response increased markedly. New air bases were constructed, permitting the wide deployment of a modern jet strike and reconnaissance force, and the Tactical Air Control System was increasingly refined. These actions provided an air arm responsive to the combat situation.

(S) By 1966, in Vietnam, the USAF could boast a viable system of preplanned and immediate air responses, complemented by procedures for rapid diversions. The role of the FAC as the on-the-scene originator of requests and coordinator of strike action, and the Direct Air Support Center as a clearing house for requests and allocator of available resources, was working smoothly.[7] This Air Force Immediate Air Request net decreased response time for diverts to an average of 20 minutes and for scramble sorties to an average of 40 minutes in RVN.[8] The system, not surprisingly, was geared to the ground war, and the most dramatic improvements were made in connection with efforts to support troops in contact (TIC). Refinements in immediate air response stemmed from improved coordination between American ground and air units. Any remaining problems often reflected difficulties in accommodating the divers priorities and interests of the American Armed Services within the Joint Air/Ground Operations System.

(C) In Laos, objectives differed; the need for rapid response therefore took on a different shape. The role of the USAF was dominant, and the

character of the war effort placed an even greater premium on flexibility of air equipment and ordnance than was true elsewhere. In 1965, the USAF accelerated its interdiction and close air support roles in Laos. For air operations, the country was divided into northern and southern sectors. Air support facilities in Thailand were expanded, and a number of new and at times previously untested programs were developed to support the air response effort.

(C) For operations in Laos, no alert forces per se were established on the ground between 1965 and 1969. Instead, alert and bad weather requirements were handled by giving every frag a primary mission, an alternate mission, and a tertiary mission. The primary mission was usually far removed from the alternate mission during bad weather periods to capitalize on the possibility of differing weather conditions. The Airborne Battlefield Command and Control Center (ABCCC) designated tertiary targets to be exploited if neither the primary nor the alternate target could be struck. The immediate response requirement was, in effect, met by the opportunity for instant diversion permitted by this system.[9] While flexible within its preplanned limits, this system of tiered responses was not designed for the exploitation of lucrative targets which might appear after fragging requirements had been established. Furthermore, during wet season conditions all targets frequently proved inaccessible, or were of diminished value.

(S) Two developments related to the war in RVN between 1965 and 1969 provided precedents for the introduction of the Quick Reaction concept

into Laotian and other out-country operations in 1970. In July 1966, ARC LIGHT Quick Reaction strikes were implemented as recommended by General Westmoreland, Commander, U.S. Military Assistance Command, Vietnam, in a message to the Commander-in-Chief, Pacific Command. Six B-52 aircraft were placed on continuous alert at Andersen AFB, Guam, and six KC-135s were put on standby alert at Kadena AB, Okinawa.[10] On 6 July the first B-52 Quick Reaction mission in RVN used the MSQ-77 Combat Skyspot bombing system in support of operations in Phu Yen Province. Elapsed time between receipt of the Quick Reaction request by B-52 units and arrival on target was 9 hours and 45 minutes, a creditable performance in view of the 6 hour flight time to the target, and the firepower brought to bear on ground action was enormous and accurately placed. For Laotian operations, however, the important point was the precedent that ARC LIGHT QR strikes represented:[11] implementation of a full-time alert status principle. Subsequently, B-52s were deployed to U-Tapao Royal Thai Naval Base, Thailand, for closer proximity to the target area, and the alert principle was maintained. Reduction in response time permitted by the shift to Thailand eliminated the need for in-flight diversions which occasionally marked B-52 operations from Guam. A prototype of the Quick Reaction concept later established in Laos was emerging: alert status, immediate response, and so drastic a reduction in elapsed time that secondary and tertiary targets need not be attached to the alert frag.

(S) Even as the ARC LIGHT system was being refined, steps to implement the Quick Reaction concept were being taken in RVN itself. On 5 August

1968 the U.S. First Marine Wing initiated an experimental airborne alert posture in I Corps of RVN. Under this system a fighter scheduled for combat air patrol remained on ground alert for 30 minutes. If not scrambled during that time, the alert-status aircraft took off and maintained combat air patrol posture over the Tactical Air Navigation (TACAN) facility at Phu Bai for approximately 45 minutes or until diverted to a target. If no immediate request materialized, the aircraft refueled and was directed to a less lucrative or lower priority target.[12] This system, with some modification, was continued through 1969. Fighters operating under this program achieved a highly satisfactory reaction time (14.9 minutes), half the time generally taken by scrambles.[13]

(S) The Marine experiment expanded options available to the formulators of the Air Force Quick Reaction program, but also brought to the fore some of the problems involved. ARC LIGHT, with its heavy payloads directed against massed troops and materiel, was in effect hitting fixed targets with a high degree of guaranteed success. The Marine experiment involved a pre-commitment, and thus faced the possibility of reducing its effectiveness and increasing its cost by applying resources to relatively non-lucrative targets. This was the major problem of the three tiered fragging operation already employed in Laos in both Barrel Roll and Steel Tiger. The practice of holding aircraft in airborne alert, moreover, was expensive in terms of maintenance hours and fuel consumption. For these reasons, the experiment did not impress 7AF favorably, but as long as fragged Marine sorties were met and ground alert aircraft were available, Blue Chip did not restrict the practice.[14]

(S) Meanwhile, new developments also suggested the need to formulate a Quick Reaction concept and its implementation in terms which would accommodate the peculiar demands of war in the Laotian theater. In 1968, single management control was introduced for all air resources for both in-* and out-country sorties. Requirements were established and sortie numbers allocated every Sunday. This system tended to increase flexibility in the use of air resources for the war effort as a whole, but reduced local options for exploiting unanticipated interdiction opportunities or meeting sudden demands for support of friendly troops. The introduction of Igloo White sensor equipment and of aircraft equipped with Long Range Air Navigation (LORAN) greatly increased reconnaissance capabilities and offered unprecedented opportunities for strikes against fleeting, perishable, and static-perishable targets.[15] The introduction of this technology permitted significant improvement in the real time response to truck convoys even during the wet season.[16] But enemy tactics had also improved considerably, and as the 1970 wet season approached, establishment of a new Quick Reaction program capable of interdiction of LOCs and destruction of fleeting targets during monsoon conditions began to receive priority. The establishment of the QR program was greatly enhanced by the lessons which had accumulated from ARC LIGHT, from the Marine experiment, and from continued refinements in Laotian fragging operations.

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*In-country referred to RVN; out-country, to areas in SEA outside RVN.

CHAPTER III

QRF IMPLEMENTED: ORGANIZATIONAL DEVELOPMENT

(S) On 25 March 1970 the new Quick Reaction Force (QRF) program, designed to meet the peculiar demands of the Laotian theater, was briefed to FACs attending a conference at Tan Son Nhut AB, RVN. The program, which evolved from proposals formulated by Maj Gen Joseph G. Wilson, 7AF Director of Operations, and his successor, Maj Gen Alton D. Slay, applied the principles of economy, flexibility, rapid response, and central coordination to the Laotian requests for air resources.

(S) Air power needs in Laos fluctuated with the seasonal weather. To meet the need for the interdiction of fleeting targets during wet weather conditions, a ground alert program was established for aircraft assigned to Udorn and Ubon Royal Thai Air Force Bases (RTAFBs), Thailand. Because of reduced demands for air resources to meet regularly scheduled frags during the Southwest Monsoon season, implementation of alert status allocations was regarded as a reasonable burden upon existing facilities, but no effort was made to follow the Marine concept of planned take-offs at the end of a ground alert period. Because monsoon weather conditions differed greatly from region to region, fast FACs were assigned the task of discovering clear weather areas containing lucrative targets, and air resources were made available wherever needed. Sensor devices provided target information which, if matched with suitable weather conditions, permitted immediate air strikes. On-target times of 45 minutes to 1 hour were established in the plan.

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(S) As briefed to the FACs, the 7AF Directorate of Combat Operations was responsible for planning all out-country USAF tactical fighter, electronic warfare, and reconnaissance operations. This responsibility included acquiring and researching targets, determining appropriate weapons and general tactics, publishing and disseminating fragmentary orders, and maintaining Blue Chip, which exercised operational control over all 7th AF units in Thailand. The new QRF concept was integrated into this system through Blue Chip, which acted as a central clearing house for all reconnaissance inputs and authorizations for fragged, diverted fragged, and quick reaction missions. In most cases, reconnaissance information was obtained from FACs and from Udorn-based RF-4 Bullwhip and Atlanta reconnaissance operations, which surveyed enemy movements in Barrel Roll and Steel Tiger every morning. The information was passed to the ABCCC C-130 orbiting overhead, and in turn relayed to Blue Chip. Here the Fighter Division of 7AF was to assimilate the information in planning, coordinating, scheduling, and monitoring the application of QRF sorties in the Barrel Roll and Steel Tiger sectors (and later elsewhere). The Scheduling Branch considered various factors in the development of the daily frag, and was to assign to QRF those missions which required immediate action.[18] Blue Chip was then to immediately notify the appropriate unit on alert, specifying air resources required, and was to pass the flight's call sign to the ABCCC for relay to the FAC in the target area.[19]

(S) On 22 May 1970 Seventh Air Force established QRF at the 8th Tactical Fighter Wing, Ubon RTAFB, and on 27 May at the 432nd Tactical Reconnaissanc

Wing, Udorn RTAFB.[20] Initially, at each base, QRF consisted of six aircraft capable of taking off within 30 minutes after notification by Blue Chip. The number of aircraft was quickly increased to 12 at each base, but in June was reduced to 8 each because of requirements in RVN.[21] In 1971 QRF forces were also established at DaNang for both in- and out-country operations. The F-4 Phantom jet constituted the primary QRF aircraft, although occasionally the A-1, A-37, AC-119, and AC-130 were also used. Ordnance for aircraft on QRF status (as specified in the 1 May 1970 amendment to 7AF Operations Plan 730) consisted of three types of MK-82 bombs, CBU-24 (Cluster Bomb Units), incendiary bombs, and miscellaneous munitions.[22] Later, four of the Ubon aircraft were equipped with Laser Guided Bombs for use against especially lucrative targets. One fairly standard load consisted of six 500-pound MK-82s, half with fuse extenders, and four CBU-24/49s. Variations included high-drag bombs, napalm, or the newly introduced CBU-38s.[23] Take off times, originally established at 30 minutes, were met from the outset and subsequently reduced to 20 minutes.[24] Periods of coverage were also established to include all daylight hours up to one and one-half hours before sunset at Udorn RTAFB, and from 0700 to 30 minutes prior to sunset at Ubon RTAFB. Quick Reaction Force aircraft were required to be prepared to launch within 2 hours and 15 minutes of landing.[25]

(S) The Southwest Monsoon season campaign in 1970 was directed primarily to the interdiction of LOCs, principally routes 922 and 966 in Steel Tiger, which the enemy was attempting to maintain during the wet weather, Route 7 in Barrel Roll, and storage areas serving all these routes.[26] These

priorities were maintained into the dry (Northeast Monsoon) season which followed. Quick Reaction Force activity, originally conceived as a wet season operation only, was continued on a reduced scale thereafter. During the dry season, QRF was given greater responsibility for attacking anti-aircraft artillery, but also continued to provide assistance to friendly forces.

(S) Plans for the 1971 wet season offensive included a role for QRF, though not on as extended a scale as in 1970. Quick Reaction Force F-4 sorties averaged 13 per day, or only half the 25 daily sorties flown during the high period in 1970.[27] With the addition of facilities at DaNang AB, RVN (from which the 366th TFW* was specifically tasked with interdicting the Waterway Seven Complex**),[28] heavy emphasis in several areas--including increased use of LORAN and sensor detection equipment--enhanced the QRF role.[29] Of great importance was the increasingly economical use of all resources. When rains made roads impassable, emphasis was shifted from LOCs to storage areas.[30] In contrast to the 1970 wet season campaign, and as a departure from one principal reason for the establishment of the QRF system, strikes against trucks were reduced.[31] Operations in Laos continued to engage 80 percent of U.S. strike sorties in SEA, with Steel Tiger receiving 70 percent of these Laotian sorties.[32]

(S) Operations during the 1971 wet season reflected changes based on experience gained during the previous year's program. Diverted frags

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*TFW--Tactical Fighter Wing.

**Se Bang Hieng river flowing west then south out of the DMZ.

began to supplement QRF sorties. Quick Reaction Force was expanded to include search and rescue (SAR) operations. Night operations began in January and continued until cancelled in June because of deteriorating weather conditions.[33] Operations were expanded into RVN, and into Cambodia from Thailand bases. Because of the role of QRF forces at DaNang AB, RVN, and auxiliary assistance from Thailand operations, QRF in RVN rose to 20 percent of total missions flown. In Barrel Roll, the scene of a North Vietnamese Army (NVA) holding operation, QRF represented less than 10 percent of all sorties flown in the May-September 1971 period. The fluid and rapidly expanding requirement for combat air support in Cambodia gave QRF a chance to demonstrate its responsiveness; here nearly 2,300 QRF missions were flown, constituting 30 percent of the total, the largest of any area in which QRF operated. In Steel Tiger QRF contributed 1,642 sorties to a total of 19,500 flown.[34]

(S) During 1971-72 dry season Commando Hunt VII operations, QRF continued to assist in entry interdiction, preparation of blocking belts, and in exit interdiction of the main passes. The blocking belts, mine fields aerially seeded with various types of anti-personnel and anti-materiel mines and sensors, provided F-4 QRF sorties an opportunity to strike when the enemy attempted to clear the mine field or by-pass the blocking belt.[35] Beyond this, QRF forces, which were reduced substantially to free air resources for normal, scheduled dry weather missions, concentrated on striking fleeting targets.[36]

(S) Of perhaps greater significance was the extension of the QRF concept to reconnaissance. In April 1971 an isolated use of QRF in reconnaissance operations confirmed the feasibility of expanding the concept. On 14 April 1971, General F. C. Blesse, Assistant 7AF/DO, ordered a night reconnaissance operation established at Udorn to perform night photoflash work on trucks claimed destroyed by AC-130 gunship crews. Seventh Air Force believed vehicles which AC-130 crews were assessing as destroyed were being towed off roads before early daylight photography confirmed their destruction. Using LORAN coordinates supplied by the gunship crews, the RF-4C's photography provided strong evidence to support the belief that the destroyed vehicles were, in fact, being removed before daylight Bomb Damage Assessment (BDA) was accomplished.[37]

(S) Other reconnaissance operations which included some aspects of the QR concept were two ongoing programs, Bullwhip and Atlanta, which performed daily visual and photographic reconnaissance over the principal LOCs in Barrel Roll and Steel Tiger, respectively. In September 1970, the official name of these programs became the 432nd Tactical Reconnaissance Wing (TRW) Real Time Target Generating System.[38] It is true that Atlanta and Bullwhip sorties were fragged daily for early morning missions, were not on alert for quick launching, and thus were not "Quick Reaction" in the purest sense. However, besides their fragged targets they also covered targets requested by FACs while the reconnaissance mission was airborne, or other targets of opportunity which appeared to be of significant value. Their primary difference from normally fragged missions was that they

provided greatly improved responsiveness. As a consequence, the photo collection, processing, exploitation, and dissemination cycle was reduced from six days to less than 24 hours. Detailed target information was expedited to FACs and QRF strike crews, and QRF strikes were often conducted on the same day as, or the day following, the discovery of the target by the Atlanta/Bullwhip reconnaissance mission.[39] The usefulness of these programs, which were referred to as Quick Reaction Reconnaissance, was unquestioned.[40] The Bullwhip and Atlanta operations, by virtue of their timely responsiveness, integrated more easily into QRF operations than did normally fragged reconnaissance sorties, and this ability to work with the QRF capability at Udorn, Ubon, and DaNang was one important reason for the decision to continue this type of reconnaissance.[41]

(S) Nevertheless, an even faster reconnaissance response than that provided by Bullwhip and Atlanta was needed. Therefore, on 22 November 1971, General Lavelle, Commander, 7AF, directed a Quick Strike Reconnaissance (QSR) program be instituted using guidelines already established in QRF. Under General Lavelle's QSR, which started with two aircraft in alert status each day, FACs and ABCCC, through Blue Chip, requested immediate scrambles of RF-4 aircraft from the 432nd TRW, Udorn RTAFB. Photo Interpretation readout from these missions was telephoned to Blue Chip within one hour of the reconnaissance aircraft's return to base. As in the case of QRF-allocated sorties, if not launched on the QSR mission before the end of the alert period the aircraft could be fragged into a pre-planned photo mission.[42] The inspiration of this program, which was

extended to cover targets in Cambodia and RVN as well as in Barrel Roll and Steel Tiger, was conceded to be the QRF program already in operation.[43] When General Ryan, Air Force Chief of Staff, questioned the effectiveness of the new "unfragged reconnaissance" program in the course of a visit to Udorn RTAFB,[44] he was briefed that Bullwhip and Atlanta were fragged by Blue Chip. Apparently, his question about the QRS program was not answered correctly due to confusion on the part of the briefer. The confusion, while unintentional, suggested how easily the concept of Quick Reaction could be confused with Real Time Response.[45]

(S) Ultimately, the answer to General Ryan's question, while not immediately forthcoming, was provided by the fact that Bullwhip and Atlanta, not QSR, continued to provide most of the targeting information. In fact, in Barrel Roll, Bullwhip was more frequently used for delineation of targets than regularly fragged reconnaissance and Quick Strike Reconnaissance sorties combined. Nevertheless, Bullwhip and Atlanta were cut back in April 1972; Atlanta was stopped completely during the NVN invasion of 1972, and Bullwhip was reduced to one sortie daily and integrated into Steel Tiger operations in response to the invasion.[46] By July 1972 both programs had been reinstated; two Bullwhip sorties were scheduled on a daily basis in Barrel Roll, and the Atlanta program was expanded to three sorties per day covering MR I (SVN), Route Package I (NVN), and Steel Tiger East. This rate was maintained until the cease-fire in January 1973.*

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*The programs continued at decreased sortie levels until September 1973.

(S) The tendency to experiment (displayed during the development of QSR, in night QRF, and in accommodation of QRF to the introduction of more sophisticated strike armament and reconnaissance devices) was nowhere more in evidence than in the varied techniques used by tactical fighter and tactical reconnaissance wings to meet immediate launch requirements. Ordnance mixes were continually adjusted in an effort to anticipate demands. Preliminary briefings provided alert crews as much information as was possible without knowing in advance what the FACs' target requests would be. The most important areas of experimentation dealt with fragging procedures and alert activation requests. In the first instance, the number of aircraft allotted to QRF alert status varied from wet to dry season. Dry season increases in regularly scheduled sorties against lucrative targets necessarily pressed heavily on allotments to QRF. Secondly, scheduling of alerts was changed from time to time. The original operational system established a single long alert for each QRF aircraft and crew in an effort to have as much airpower as possible available when areas of good weather opened. For the crews, this system proved psychologically and physically demanding, especially if no scramble materialized or if the scramble came at the end of the day, when crew rest limitations could have been exceeded. Long continuous alerts also disrupted maintenance schedules, especially in the dry season when the demand on available unit aircraft was intense, and unlaunched aircraft on alert status could not be utilized. Recognition of these problems led to experiments in reducing the length of alert times. Thus, early

in 1971 a Limited Quick Reaction Alert Force was authorized at the 432nd TRW for the Southwest Monsoon season, and a two hour alert limit was put into effect. If a strike was not requested before the end of two hours, the mission was to be launched against a primary target, or cancelled if the weather was unsuitable.[48] The decision to release an aircraft and crew from alert status, however, always remained with Blue Chip. Requests to terminate alert status were generally granted at the end of the short alert periods, when other aircraft were brought into place.[49]

(S) Some units, as the 13th Tactical Fighter Squadron (TFS) at Udorn, continued to use the extended alert system, since the time limit system had the tendency to exhaust QRF resources in the execution of routine missions. DaNang AB used both systems, maintaining three sets of two aircraft each on QRF staggered throughout the day. Once launched, these flights were not returned to QRF status upon their return to base. Instead, the next set of scheduled QRF aircraft was moved into alert status. In addition, two F-4 aircraft constantly maintained a strike alert posture. (Blue Chip on occasion requested that the crew remain on alert in the aircraft.) These aircraft were assigned several mission numbers on the daily frag so that they could be called on repeatedly during the day.[50]

(S) Even when aircraft and crews were generally underused, there were periodic problems. Within four days of the beginning of QRF in May 1970, 8th TFW at Ubon RTAFB broached the idea of establishing a formula to meet the possibility of heavy QRF alert demands coinciding

with heavy regular fragging requirements. The proposal suggested that alert sorties be limited to 1.5 times the number of aircraft available for alert status, and that the number of QRF sorties launched be subtracted from the number of fragged sorties established prior to implementation of QRF.[51] One persistent complaint at the command level was the difficulty, and perhaps inadvisability, of tying up resources for QRF status when it reduced the command's ability to meet regularly scheduled missions against lucrative targets. Conflict developed between Blue Chip's reliance on an inviolable alert force and the commands' wish to pare parts of it away as pressure on resources increased. The conflict manifested itself in several ways. Aircrews complained that assignment to alert status denied them opportunities to participate in regular operations, subjected them to the stress of alert status with only limited chances of being used, and even reduced their proficiency. In support of these points, the 555th TFS cited its August 1970 QRF record. Of 380 QRF sorties on alert, 123 (33 percent) were cancelled because of weather. Of the 257 launched, 84 (33 percent) returned to base without expending ordnance. The squadron reported that it was not uncommon to hear that an air crew had not dropped bombs for weeks, with a consequent decline in morale and expertise.[52] Pilots complained of long alerts which terminated in a cancellation or in QRF activation after crews had been on alert status for up to 12 hours. In April 1972 Lt Colonel Wayne T. Frye, Commander of the 555th TFS, observed that crews briefed at 0330 for an 0530 QRF commitment might remain on alert status until well past 1530, the 12 hour limit. The problem was intensified when night frag obligations arose.[53]

(S) Fragging to supply immediate air support also encroached upon QRF alert resources. If FAC specifications called for ordnance which was not already uploaded, ABCCC often tried to divert an airborne fragged sortie rather than wait for the ground alert ordnance to be changed.[54] Often a crew was scrambled instantly, and Blue Chip accepted whatever ordnance was uploaded on an available aircraft. Blue Chip also introduced a distinction between fragged alert and unfragged alert, the former equated to a Blue Chip anticipation of the availability of a lucrative target at a set future time, and the placement of an aircraft and crew on alert status prepared to launch if the opportunity appeared. Not only did this give the crews a time for takeoff, but it assisted in crew briefing. Alternately, a regularly fragged hard mission might be delayed in expectation of subsequent availability of more lucrative targets and placed on QRF status.[55]

(S) Experimentation with defining targets appropriate to QRF played a prominent role in the evolution of the concept as a whole. The targets specified as appropriate for the QRF, as defined in the amendment to the 1970 Southwest Monsoon Operations Plan, were limited to "fleeting" or "perishable," which was largely interpreted to mean vehicles moving under cover of bad weather or storage facilities exposed to air attack for brief periods due to clear skies. But as wet weather made roads impassable and slowed truck movement, NVN forces turned increasingly to waterways. Waterway targets, which moved rather quickly, were difficult to find and hard to hit without precisely suitable ordnance. As a result of its time and

ordnance flexibility, QRF found itself in the forefront of efforts to interdict this type of movement. Late afternoon scrambles to hit waterway targets with hard bombs and CBU-24s became a primary responsibility of QRF sorties during the 1970 campaign.[56] Seventh Air Force suspected, however, that the effectiveness of such interdiction was very limited and tried to discourage it.[57]

(S) In the same season, in the Barrel Roll region of Laos, QRF was called on to assist General Vang Pao's Meo irregular army. This army's air support needs had previously been filled by diverts from the numerous flights operating in the area during high sortie rate, dry weather conditions.[58] The QRF's effectiveness here was never sufficiently proved because the ground troops were not able to describe where the enemy was situated and thus were not able to direct the strikes accurately.[59] As a result, AF sorties tended to return to road interdiction.

(S) In succeeding seasons the relationship of QRF to sensor devices became more important. In June 1971, Seventh AF warned of a rapid expansion of enemy logistics and troop movements during the coming dry season and called for the development of a "flexible plan which will allow a shift of effort to meet the tactical requirement."[60] Properly and strategically placed sensors and QRF aircraft with LORAN guidance permitted effective attacks on truck parks with MK-82 hard bombs from 15,000 feet. Little preliminary briefing was required; the terrain and weather conditions were not crucial factors.[61] Often, in anticipation of the need, QRF alert management had two LORAN-equipped aircraft available to lead

larger numbers of F-4s to the proper site.[62] In August, QRF missions participated in strikes against sensor-detected activity with a mixture of anti-personnel and anti-materiel ordnance.[63]

(S) The QR concept was increasingly applied to aspects of the air mission which its originators had not suggested: SAR operations, gathering of BDA, and strikes against anti-aircraft artillery (AAA). SAR in some ways was a difficult operation to accommodate within QRF's limitations. There was a specific requirement for a certain ordnance, and because of the inadvisability of uploading CBU-52 without an intention to use it, QRF alert status aircraft were rarely equipped with this ordnance without specific command.[64] When needed, therefore, it was sometimes necessary to download ordnance off a QRF aircraft and upload the SAR area denial munitions.[65] Battle Damage Assessment (BDA) also became a special area of operation for QRF activity. During the dry season of early 1971, QRF was devoted largely to BDA objectives; of 348 sorties flown between 10 February and 10 March of that year, 194 were employed for BDA; in the week from 3 March to 10 March, only 6 of 61 QRF sorties were assigned to other objectives.[66] Suppression of AAA by QRF resulted from a Director of Operations/Director of Materiel Conference on Force Employment held 29 June 1971. Participants agreed that gunship escorts against AAA targets during wet season operations complicated fighters' work inasmuch as their own fire was confused with enemy action, thus making visual pinpointing of threat sources more difficult. QRF sorties were suggested as an

appropriate substitute and were frequently used against AAA targets thereafter.[67]

(S) The most dramatic extensions of the original QR concept were in the decisions to continue QRF as a dry season operation after its usefulness was demonstrated in the wet season operations of May-September 1970, to use QRF sorties for night missions, and to extend the operation into new areas. All decisions, interdependent as they were, fundamentally altered the original QRF concept. In the case of dry season operations, one of the original purposes of QRF--commitment of aircraft and crews to alert status during the wet season, when competing requirements would diminish--was voided.

(S) The original pattern of using QRF to exploit brief periods of clear weather in the Southwest Monsoon season continued to be a predominant factor in QRF scheduling in Barrel Roll and Steel Tiger. The extension of QRF to Cambodia on a large scale, however, moved this program to some degree outside the constraints imposed by (1) weather conditions along the Annamite chain and (2) primary emphasis on LOCs and storage facilities in Barrel Roll and Steel Tiger. QRF became a widely used device for assisting friendly troops in combat during the dry season (November 1971 to March 1972); subsequently, because of the NVN offensive, QRF operations were substantially reduced.[68]

(S) The extension of QRF to dry season operations had an important impact on allocation of resources. The inevitable competition between a high rate of regularly scheduled frags associated with dry season operations

and the allocation of aircraft and crews to alert status was not easily resolved, and at two points, in 1970 and in 1971, serious consideration was given to extending QRF facilities to Takhli and Korat so that QRF facilities at Udorn and Ubon would be less burdened. The proposal was eventually dropped; Takhli and Korat were too far removed from Steel Tiger and Barrel Roll operations to make response times meaningful.[69] When operations in Cambodia began to take precedence a year later, no move was made to revive the idea, probably because of intense pressure on existing resources at these bases attending increased regularly fragged operations.

(S) Extension of QRF to night operations did not engender the same competition for scarce air resources in dry season activities, but it did involve changes of a different type in the QRF concept. In June 1970, just one month after QRF had been implemented for the first time, a proposal surfaced to add night QRF sorties. The proposal noted that between the middle of March and the middle of June, 54 percent of fleeting targets detected by FACs at night had not been struck because no ordnance or strike aircraft had been available. At that time, no action was taken to use QRF at night, because it was doubtful whether the night FAC could maintain contact with a moving target long enough to bring in QRF sorties. In September, however, "to compensate for the lack of strike sorties from 2400 until early morning," QRF sorties were placed on alert at Ubon RTAFB for Steel Tiger night duty.[70]

(S) During the following dry season QRF was converted increasingly to a night operation.[71] During March 1971, 152 of 224 effective QRF

missions were night sorties. In April the proportion was 184 of 274. In April, also, 6 of the 10 QRF sorties on alert and in place at Ubon and Udorn were scheduled to support Candlestick night flare operations. Three flareship operations were involved.[72] All of the night QRF sorties used infra-red techniques to deliver their ordnance. In May, 160 of 196 effective QRF missions were night sorties. In June, of 62 night QRF missions completed, 28 were Combat Skyspot, 20 LORAN, 12 Commando Nail, and 2 TACAN.[73] Overall, fewer than 10 percent of night missions were cancelled or aborted. With the onset of the wet weather in June, the program was cancelled.[74] Night QRF operations were not resumed during the next Northeast Monsoon season.

(S) Reduction of the time required to place QRF sorties over the target was constantly urged by Headquarters 7AF, and commanders worked constantly to reduce take off times to 20 minutes. A major difficulty was the time consumed in briefings. A regular briefing was scheduled for crews prior to assumption of alert status. The nature of the QRF mission dictated the need for further, sometimes extensive, briefings. On occasion the alert status crew knew in some detail what the target would be and it was largely a question of waiting for the proper moment. This was especially true in the case of a continuing SAR effort, or attacks on surface-to-air missile sites.[75] At other times, however, QRF alert crews had little idea what targets FACs would call to be hit. In these cases the lack of adequate briefing arrangements or even of a knowledge of the object of the mission after Blue Chip had called for assistance was a cause for concern.[76]

(S) Equally difficult was the problem of justifying a continuation of QRF operations when targets moved far away from QRF alert facilities. Extension of QRF operations into Cambodia added significantly to arrival times on target. The momentum of the QRF program saw the system so stretched by logistics difficulties that QRF-launched aircraft were arriving on target in no less time, and occasionally in far greater time, then regularly fragged sorties diverted from less lucrative targets.[77]

(S) The reduction of the time to target problem was never resolved. Indeed, the extension of QRF into dry season operations and into areas beyond Laos inevitably raised questions as to the viability of the entire concept, for in dry season operations opportunities for diversion of regularly scheduled air sorties were often so great as to obviate the need for QRF. Brig General Cramer, Seventh Air Force Assistant Deputy Chief of Staff, Operations, observed in December 1970 that QRF was not an effective competitor for the already launched and diverted frag, which could reach truck targets faster and work more effectively, even though the ordnance it was carrying was sometimes inappropriate.[78] The time to target problem was, in effect, resolved in these instances by suspending the QRF concept entirely.

(S) As a consequence of these considerations, changes were made in fragging schedules, alert allotments, diverts, and time limits. The intent of the changes was to reduce pressure on commands' regular fragging operations during dry season activity, and to have on hand as many air resources as possible during wet season clear weather periods. Seventh

Air Force wanted as many as six aircraft flights standing alert at each QRF location in wet weather, when diversions were relatively unavailable since there were but few regularly scheduled frags. While the pressure of dry season commitments was avoided, other difficulties increased. A high attrition rate between alert status and delivery of ordnance on target suggested that too many air resources were being devoted to the QRF program in relation to its output. August 1971 may be used as an example. That month, 314 QRF sorties were available to Blue Chip. Twenty were cancelled by Blue Chip. One hundred twenty-two were cancelled because of unfavorable weather, often after an alert status which lasted an entire day. Eight sorties were cancelled for other reasons. Of the 164 remaining, two were aborted on the ground and six returned with ordnance unexpended. QRF effectiveness was thus 156 of 314, or 50 percent. The principal consideration was a factor of one's point of view; Blue Chip noted that 158 sorties which might otherwise have been launched and then weather cancelled had been saved; from the commands' point of view, 158 aircraft and crews had been prepared for launch, restricted from use in other engagements for the duration of the alert, and removed from normal maintenance, ordnance, and rotation schedules.[79]

(S) The character and dynamism of QRF in action is best captured by a review of several examples of the system as it operated between 1970 and 1972, the period of its widest use. The effectiveness of QRF sorties against storage facilities detected during short intervals of clear weather in the 1970 Southwest Monsoon season was demonstrated in a strike conducted 12 June 1970. Blue Chip requested a QRF strike response to one of the 8th

TFW's Wolf FACs who sighted some petroleum, oil, and lubricants (POL) drums beside a river. The flight rendezvoused with the FAC in the Steel Tiger area, the storage area was marked with a smoke rocket, and the lead F-4 and the follow-up made three passes on the target. Each aircraft dropped nine 500-pound bombs and two CBU-24s, destroying 100 POL drums and a storage tank, and resulting in a large POL explosion.[80]

(S) Rarely did weather conditions permit QRF sorties to participate in both Steel Tiger and Barrel Roll on the same mission. On 16 August 1970, however, a Wolfpack flight destroyed targets in both parts of Laos. The F-4s were launched early in the morning to attack a 23mm gun in Barrel Roll. After refueling, the flight met a FAC on the spot and destroyed the gun with one bomb. Since the flight had no more targets, the mission headed home. Enroute, however, ABCCC directed the F-4s to meet a FAC in Steel Tiger, where, after a second refueling, the flight destroyed a stalled bulldozer, 15 meters of the road, and an undetermined amount of enemy materiel stacked beside the road.[81]

(S) Increasingly sophisticated targeting procedures were employed in the dry season applications of the QRF concept. On 24 November two F-4Ds were scrambled to hit a target marked by an OV-10 FAC configured to integrate LORAN targeting devices into the PAVE SPOT* program. Successive strikes were planned and timed to deliver ordnance as the previous ordnance was detonating. Fifteen barrels of POL and 20 crates of supplies were destroyed, and two large and several small secondary fires followed.

*An OV-10 night observation device with boresighted laser range designator.

(S) On 3 January 1971 two F-4Ds from Phu Cat, RVN, were placed on alert with BLU-52, anti-personnel agent, and BLU-27, incendigel, for possible use in a SAR effort for Tiger 02, a fast FAC downed in a notoriously hostile area of Laos. Shortly after first light the Phu Cat F-4s, Cobra 05 flight, were scrambled, and despite bad weather conditions and intense enemy ground fire were able to successfully employ their ordnance. This was the first instance of the use of BLU-52 in a SAR effort in SEA and it was highly successful; the BLU-52 thwarted enemy attempts to find and capture the downed aircrew and permitted the rescue forces to effect successful aircrew pick-ups without incident.

(S) Anti-aircraft artillery emplacements were sometimes allocated to QRF sorties, especially in the absence of lucrative LOCs or when AAA counter-measures were required before further operations in the area could be carried out. In April 1971 a Wolfpack F-4 flight carrying a Paveway I load was QRF scrambled to work with PAVE NAIL.* [82] Despite more than 200 rounds of enemy 37mm AAA fire, the mission destroyed three 37mm guns and killed 12 enemy troops with three MK-84 LGBs. [83]

(S) A critical role for QRF sorties involved support for friendly troops in combat. On 7 September 1971, two F-4Ds from the 435th TFS at Ubon were directed to Military Region One in RVN. In the face of heavy anti-aircraft fire and using a figure eight weave pattern to attack the target from opposite directions, they destroyed three fortified military structures, damaged two others, and caused three large sustained fires within the enemy command complex area. [84]

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*The OV-10 PAVE SPOT program expanded to include integrated LORAN.

(S) The NVA invasion during the spring virtually eliminated the use of QRF except for search and rescue operations. When at length QRF was restored to something approaching its former scope, the changing geographical pattern of the war tended almost immediately to reduce the significance of its contribution. The Cambodian operations proved to be too far removed for QRF sorties from Ubon and Udorn, and increasingly from DaNang, to compete effectively with regularly scheduled and diverted frags now on hand to meet short time requirements. Finally, the generally reduced level of air resources available to the USAF in SEA after early 1972 necessarily took its toll of those programs which were not already tied intimately to specific, on-going operations. By the middle of 1973 QRF had ceased at Udorn, and was substantially reduced in scope elsewhere.

CHAPTER IV

ANALYSIS AND EVALUATION

(S) The QR concept was remarkable for the diversity and variety of its applications during three years of widespread use, for the clarity of its conceptual framework, for the durability of its major problems, and for its decidedly mixed reception in the Air Force chain of command. The proliferation of QRF responsibilities, the transition from wet season day operations to dry season night operations, the increased geographic scope of deployment and employment, and the delineation of new targets fundamentally altered the QRF concept as defined in 1970. By the time operations were curtailed in 1973, QRF had come to mean something substantially more than a wet season, daytime effort to strike fleeting targets in Laos, or conserving resources by remaining in alert status until a lucrative target was isolated and identified. In some respects the redefinition of QRF was a natural response to changes in combat conditions, air resources available, and experience gained. To a considerable degree, however, the changes exacerbated rather than eliminated problems associated with the original concept, and the ultimate result was a failure to establish a quick reaction system, either in its strike or reconnaissance aspects, which reconciled practice with theory. Limitations of the QRF concept were addressed by changes in operations rather than by a re-evaluation of the applicability of the concept itself, and, consequently, operations changes did not always prove sufficient to overcome difficulties.

(S) A fundamental conceptual problem in QRF was a tendency to resist recognition of, rather than assimilate, five sets of internal contradictions. The first was placement of aircraft and crews (which were in limited supply) on alert, an action which implied that these resources need be used only under special conditions in order to justify their effectiveness. Second was the reduction in elapsed time between notification of launch and arrival on target to the smallest level possible while providing crews sufficient preparation to make missions as effective as possible. The third was the limitation of QRF to targets both lucrative and fleeting while insuring at the same time that the average QRF participation levels would be high enough to contribute meaningfully to overall operations. Fourth was a desire for flexibility in armaments, alert schedules, and deployment without appropriation of large amounts of available resources to the QRF operation. Finally, fifth was the accommodation of Blue Chip's fluctuating demands for QRF resources to the restricted and in large measure prepledged resources at the disposal of the commands.

(S) The first problem was viewed differently by Seventh Air Force Headquarters on one hand and the various commands on the other. In Seventh Air Force's eyes, QRF's viability rested squarely on the inviolability of the concept that aircraft and crews be available for immediate response whenever called upon during (at least as originally defined) daylight hours. Adherence to this view implied opposition to the following: (1) release of resources from alert status if not employed quickly, (2) staggering of alerts (which in effect reduced the resources available

at any one time), and (3) using QRF resources to fill ordinary, fragged commitments. Here the original identification of QRF with wet season operations was valid, and difficulties intensified when the concept was extended to dry season operations. In wet season operations in Laos, 7/13th AF had concluded that the principal problem was not a dearth of resources at its disposal, but difficulties in exploiting intermittent opportunities for their use. QRF met this in effect by purchasing acceleration in response time with stepped-up mobilization of aircraft and crews. The complete solution, an automatic limit on alert status obligations, was strongly suggested by several commanders and conceded from time to time by 7th AF. But the shorter the alert status time, the smaller the number of aircraft available simultaneously for QRF deployment, and the Blue Chip wish for six crews and aircraft on 12 hour alert was never effectively reconciled with the commands' desire for 2 hour alerts, with one or (depending on the time of return to base) two crews available at any given time.[85]

(S) The QRF required a relative abundance of resources, especially in its extensions to more varied targets and geographic locales. In its most limited application against fleeting targets in wet season conditions, a natural limit on types of ordnance required was in effect. As targets were expanded to include storage areas, water traffic, AAA, SAR, and TIC operations, demands for sorties increased and armament needs diversified. In the dry season a Blue Chip call might find its needs entirely beyond fulfillment without incurring a long delay.[86] The problems of changing

ordnance, and the time needed, have already been discussed. Commands were forced to anticipate requirements, and attempted to do so by offering assorted packages in different alert status aircraft. This was made difficult when implementation of cut-off times for alert status reduced the number of aircraft available simultaneously and thus the number of different ordnance packages on the alert line.[87]

(S) The demands of regularly scheduled fragging missions made accommodation to QRF difficult. The implications of this competition for limited resources have already been mentioned. QRF excepted, daily sorties were geared to a preestablished multiple of available aircraft and crews, which air combat experience indicated air support facilities could handle and crews accommodate physically and psychologically. To the extent that QRF sorties were subtracted from the pre-QRF level of fragging demands, maintenance and crew rest problems could be met. But QRF introduced other operational difficulties. In the first place, aircraft were tied up and maintenance problems accumulated. Aerospace Ground Equipment normally rotated among aircraft was tied up for long periods abreast of the alert status aircraft.[88] Long alerts without launch on a QRF mission or release from alert for a regularly fragged mission reduced the sortie rate in relation to the number of aircraft available. Commanders were loud in their complaints that their efficiency marks were falling because of QRF non-launch conditions, and pressed for changes.[89]

(S) The increasing tendency to apply QRF to dry season and night operations against a growing array of targets during successive campaigns

blurred the QRF principle, i.e., providing the ordnance desired in the least possible time at the smallest possible expense. Thus, doubts as to its effectiveness increased rather than diminished. The viability of QRF was in part reduced by geographic changes, changes in objectives, and by other factors over which there was no control. But it was also compromised by a loosening of the QRF definition, by an overestimation of its transferability to new operations, and by adoption of subsidiary commitments which undermined the initial dedication to economy, immediate response, and precision in targets. In December 1971, Maj Gen Evans, 7/13AF Deputy Commander, suggested that outside its limited sphere of wet weather operations QRF was competing unsuccessfully for recognition as a viable strike and reconnaissance tool. He noted as one instance the lack of appreciation shown by Raven FACs for QRF; the FACs wanted sorties every day, whether a target was available or not, and were not able to exploit QRF successfully except in wet weather situations.[90]* Increasingly, QRF sorties arrived on target to find themselves competing for attention with diverted and regular frags, circling in patterns and refueling while their original advantage, immediate response, was lost.[91] Most important of all, the relatively large commitment of resources to QRF in terms of the

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*(S) In their pre-publication review, Hq PACAF/INT noted that "the commitment of scarce F-4 and gunship sorties to QRF further complicated the existing sortie shortage problem. The Raven FACs were rarely without good targets, and as a result, normally requested launch of the QRF missions at the beginning of the availability period. This effectively eliminated the alert concept unless Blue Chip refused the QRF launch request."

number of effective sorties flown could be justified only when targets were both scarce and lucrative, and competition for resources was limited.[92] The signal compliment extended to QRF by the American Embassy, Vientiane, in August 1970 captured the true value of the QRF program in its earliest and most limited phase; the Embassy congratulated the QRF program on its high level of success in interdiction in wet season conditions in Laos and anticipated that further demonstrations of this effectiveness would greatly assist the war effort in Laos. In terms of this type of operation,[93] the Embassy's forecast was correct. But by its very success here QRF was eventually overextended. It was applied in areas which lay beyond its own capabilities.

FOOTNOTES

1. (S) EOT Report, Maj Gen Joseph G. Wilson, DCS/OPs 7AF, 1 Dec 71.

2. (S) Richard L. Garwin and Charles P. Schlichter to Maj Gen George B. Simler, DO, DES/PO (BD913), Hq USAF, DE, 16 May 69.

3. (S) Interview, Mr. Kenneth Sams and Major Philip Caine with General Creighton Abrams, COMUSMACV, 3 Mar 70.

4. (S) Msg, OUSAIRA, Vtn to 7AF DI/DOE, Subj: Situation Report MR II, 22 Mar 70, in Project CHECO Report (S), Air Operations in Northern Laos 1 Nov 1969-1 Apr 1970, Chapter IV.

5. (S) Project CHECO Report, Air Operations in Northern Laos 1 Apr-1 Nov 70, 15 Nov 70, p. 21. Hereafter cited as Air Operations in Northern Laos.

6. (C) Intvw, Capt David K. Mann with Lt Col Wayne T. Frye, Comdr, 555TFW, 6 Apr 72.

(C) Intvw, Capt David K. Mann with Lt Col Eugene C. Buttyan, Chief, Command Control Div (DOC), 432TRW, 4 Apr 72.

7. (S) Project CHECO Report, Air Response to Immediate Air Requests in SVN, 15 Jul 69, p. 7.

8. Ibid., pp. 10, 24.

9. (C) Intvw, Capt David K. Mann with Lt Col Richard D. Hilton, Cmdr, 433TFW, 8TFW, 10 Apr 72.

10. (S) 7AF Chronology, 1 July-31 December 66.

11. (S) Msg, CGI FFORCEV to Cmdr 3AD, 111045Z Jul 66.

12. (S) Project CHECO Report, Single Manager for Air in SVN, 18 Mar 69, pp. 37-38.

13. Ibid.

14. Ibid.

15. (S) History of 25TFS, 1 Apr-30 Jun 70, p. 6.

16. (S) Garwin and Schlichter to Simler, 16 May 69.

17. (S) Ernest C. Hardin, Maj Gen USAF, to 8TFW Ubon, 19 May 70, containing "Minutes of 7AF FAC Conference at TSN AB 25 Mar 70," pp. 1-2.

18. (S) History of 7AF, 1 Jan-30 Jun 70, p. 7 and Fig 2, p. 12.

19. (S) Air Operations in Laos, p. 21.

20. (S) History of 7AF, 1 Jan-30 Jun 70, pp. 23-24.

(S) Msg, 7AF to 432TRW, 261115Z May 70, Subj: Quick Reaction Force.

21. (S) Darrell S. Cramer, Brig Gen, USAF, Asst DCSO, "Background Paper on Quick Reaction Force," 4 Dec 70.

(S) History of 432TRW, April-June 70, p. 20.

22. (S) Cramer, "Background Paper on Quick Reaction Force."

23. (S) CHECO Report, Air Operations in Northern Laos, p. 21.

24. (S) History of 8TFW, Jul-Sep 71, Vol I, p. 94.

25. (S) Msg, 7AF to 432TRW, 261115Z May 70.

(S) History of 7AF, 1 Jan-30 Jun 70, p. 7.

26. (S) History of 7AF, 1 Jul-30 Sep 70, pp. 67-68.

27. (S) Project CHECO Report, Commando Hunt VI, 7 Jul 72, pp. 86-87.

28. (S) Project CHECO Study, Interdiction of Waterways and POL Pipelines, SEA, 11 Dec 70, pp. 11-12.

29. (S) 7AF OPLAN 730 (5 May 71), pp. EE-2, B-2.

30. Ibid., p. EE-1.

31. Ibid., p. EE-2.

32. Ibid., p. B-1.

33. (S) History of 432nd TRW, 1 Oct-31 Dec 70, p. 31.

34. (S) CHECO Report, Commando Hunt VI, p. 96.

35. (S) 7AF, Commando Hunt VII, Jun 72, pp. 15-16.

36. (S) 7/13AF, "Barrel Roll Conference Minutes," 29 Nov 71.

(S) History of 8TFW, Jul-Sep 71, Vol I, p. 87.

37. (S) History 7AF, 1 Jan-30 Jun 71, Vol I, p. 1.

38. (S) History of 432nd TRW, 1 Jul-30 Sep 70, pp. 27-28.

39. (S) Interview, Major Richard R. Sexton with Col Lyle E. Mann, Cmdr, 432TRW, 14 Sep 71.

40. (S) Msg, Task Force Alpha NKP RTAFB to 7AF/DO, TSN, RVN, 23 Sep 71.

(S) Air Operations in Northern Laos, p. 22.

41. (S) Msg, 7AF/DO, 15 Sep 71.

(S) Msg, 388TFW/DO, 17 Sep 71.

(S) Msg, 7/13AF/IN, 18 Sep 71.

(U) Msg, 366TFW/DO, 23 Sep 71.

(C) Ltr, 7AF/DO, 24 Sep 71.

(C) Msg, 7AF/INXP, 24 Sep 71.

42. (S) Henry C. Gorden, Col, USAF, 7AF/DO Plans, "Staff Summary Sheet," Subj: Quick Strike Reconnaissance, 22 Nov 71.

43. (S) Talking Paper on Tactical Reconnaissance in Barrel Roll, 2 Dec 71.

44. (S) Robert M. Pomeroy, Col, USAF, Chief, Recon FW Division, 7AF, to DOX, Subj: Follow-up on Item H from Report on General Ryan's Visit to Udorn, 1 Dec 71.

45. (S) Msg, 7/13AF Udorn to 7AF/DO/DOX/DOXR/IN/INT/INTTD, 6 Apr 72.

46. (S) Msg, George Hammond, Col, USAF, DO Plans 7AF TSN to 7/13AF Udorn DO, 9 Apr 72.

47. (C) Buttyan Interview.

(S) Mann Interview

48. (S) 7/13AF Barrel Roll Operations: QRF Forecast for Aug 71 (Udorn).

49. (C) Buttyan Interview.

(S) 7AF DO/DM Conference on Force Employment.

(S) Commando Hunt VI, 29 Jun 71, p. 2.

50. (C) Intvw, Capt David K. Mann with Capt John Pierne, 7AF/DOXF, 1 May 72.

51. (S) Historical Input, 8TFW/DCOOC Ubon to 7AF, by Patrick Paxton, Capt, USAF, May 70.

52. (S) History 555TFS, 1 Jul 70-30 Sep 70, p. 13ff.

53. (C) Frye Intvw.

(C) Hilton Intvw.

54. (C) Buttyan Intvw.

55. (C) Frye Intvw.

(C) Buttyan Intvw.

56. (S) Intvw, Project CHECO Personnel with Col Gordon H. Scott, Director of Operations, 7/13AF, 30 Oct 70. (Abstracted from Interdiction of Waterways and POL Pipelines, SEA, p. 11.)

57. (S) 7AF, Minutes 7AF FAC Conference TSN AB, 25 Mar 70.

58. (S) CHECO Report, Air Operations in Northern Laos, p. 21.

59. (S) CHECO Report, Air Operations in Northern Laos, 1 Nov 69-1 Apr 70, pp. 10-11.

60. (S) Msg, 7AF, 10 Jun 71.

61. (C) Hilton Intvw.

62. (C) Buttyan Intvw.

63. (S) Commando Hunt VI, p. 17.

64. (S) Commando Hunt VII, pp. 15-16.

65. (C) Hilton Intvw.

66. (S) Barrel Roll Working Group, 16 Mar 71, Subj: Quick Reaction Force. Hereafter cited as BRWG with date.

67. (S) 7AF, DO/DM Conference on Force Employment, Commando Hunt VI, p. 41.

68. (S) USAF Attack Sorties in SEA, Nov 71-Mar 72, source: 7AF Southeast Asia Data Base.

69. (S) Memo for the Record: Increase of QRF/Airborne Alert for Southwest Monsoon Season, undated. Attachment to Hq 7AF Form 4, dated 4 Dec 70, from Brig Gen Cramer, Asst DCS/Operations.

70. Ibid.

71. (S) History of 7AF, 1 Jul-31 Dec 70, Vol I, Part I, Chapter II, pp. 35-36.

72. Ibid. BRWG June 71.

73. (S) History of the 7/13AF, Jul-Sep 1971. BRWG, June 71.

74. (S) Barrel Roll Working Group, Jun 71, "Quick Reaction Force."

75. (C) Hilton Intvw.

76. Ibid.

77. (S) 7AF, DO/DM Conference on Force Employment, Commando Hunt VI, p. 4.

78. (S) Brig Gen Darrell S. Cramer, Asst DCS/Operations, Command Correspondence Staff Summary Sheet, 4 Dec 70.

79. (S) History 7/13AF, Jul-Sep 71.

80. (S) Sortie Recap, 433rd TFW, 12 Jun 70.

81. (S) History of 8th TFW, Jul-Sep 70, pp. 48-49.

82. (S) Commando Hunt V, 7AF, May 71, p. 3.

83. (S) History of 433rd TFW, Oct-Dec 70.

84. (S) History of 8th TFW, Jul-Sep 71, p. 95.

85. (C) Intvw, Capt David K. Mann with Capt Steve Eves, Crew Scheduling Officer, 555TFW, 6 Apr 72.

(C) Frye Intvw.

86. (C) Frye Intvw.

87. (C) Buttyan Intvw.

(C) Frye Intvw.

(S) History of 555th TFW, 1 Jul-30 Sep 70.

88. (C) Intvw, Capt David K. Mann with Capt Norman J. Bell, Work Load Control Officer, 555TFW, 6 Apr 72.

89. (C) Frye Intvw.

(C) Bell Intvw.

(S) History of 433rd TFW, Oct-Dec 70.

(S) History of 555TFW, 1 Jul-30 Sep 70, p. 13.

90. (S) Intvw, Capt David K. Mann with General Evans, 25 Dec 71.

91. (C) Intvw, Capt Edward Brynn with Leland K. Lukens, Lt Col, USAF, Cmdr, 13th TFW, Udorn RTAFB, 24 Jun 73.

92. (S) Mann Intvw.

(C) Frye Intvw.

93. (S) Msg, AMEMB Vientiane to 7AF; Subj: "Appreciation for Outstanding Mission," 1 Aug 70.

GLOSSARY

AAA	Anti-aircraft Artillery
ABCCC	Airborne Battlefield Command and Control Center
ARC LIGHT	(S) B-52 operations in SEA
ARVN	Army of the Republic of Vietnam
Atlanta	(S) RF-4 Quick Reaction Reconnaissance flights over Steel Tiger area
Barrel Roll	Geographical area of northern Laos
BDA	Battle Damage Assessment
Blue Chip	7AF Tactical Air Control Center
Bullwhip	(S) RF-4 Quick Reaction Reconnaissance flights over Barrel Roll area
CAP	Combat Air Patrol
CBU	Cluster Bomb Unit
CINCPAC	Commander-in-Chief, Pacific Command
Combat Skyspot	(S) A ground radar (MSQ-77) controlled all weather bombing system
COMUSMACV	Commander, U.S. Military Assistance Command, Vietnam
COMMANDO NAIL	All weather bombing operations by aircraft equipped with airborne radar bombing systems
DASC	Direct Air Support Center
DMZ	Demilitarized Zone
FAC	Forward Air Controller
frag	A fragmentary operations order
JAGOS	Joint Air/Ground Operations System
LGB	Laser Guided Bomb
LOC	Line(s) of Communication
LORAN	Long Range Air Navigation
MR	Military Region
NVA	North Vietnamese Army
NVN	North Vietnam(ese)
POL	Petroleum, Oil, and Lubricants

QR	Quick Reaction
QRF	Quick Reaction Force
QSR	Quick Strike Reconnaissance
Raven	Those USAF FACs in Laos under the direct control of the Air Attache, Laos
RTAFB	Royal Thai Air Force Base
RTNB	Royal Thai Naval Base
RVN	Republic of Vietnam
SAM	Surface-to-Air Missile
SAR	Search and Rescue
Steel Tiger	Geographic area of southern Laos
TACAN	Tactical Air Navigation (radio air navigation system)
TACC	Tactical Air Control Center
TACS	Tactical Air Control System
TFS	Tactical Fighter Squadron
TFW	Tactical Fighter Wing
TIC	Troops in Contact
TOT	Time Over Target
TRW	Tactical Reconnaissance Wing